

Service Manual

PIONEER®
The Art of Entertainment

ORDER NO.
CRT2032

BRIDGEABLE FOUR-CHANNEL POWER AMPLIFIER

GM-X414 X1R/UC, X1R/ES

- This additional service manual is designed to be used together with Model GM-X414/X1H/UC and GM-X414/X1H/ES Service Manual CRT1941. Refer to it for finding parts numbers and adjustment, etc. which are not shown in this manual.

EXPLODED VIEWS AND PARTS LIST PACKING METHOD

● Parts List(Page 2)

*:Non Spare Part

Mark	No.	Description	GM-X414/X1H/UC	GM-X414/X1R/UC
			Part No.	Part No.
	1	Contain Box	HHL0074	HHL0111
	2	Carton	HHG0074	HHG0111
	5-1	Screw Assy	HEA0003	HEA0008
	5-4	Terminal(x8)		HKC0001
*	7-4	Caution Card		HRP0006

Mark	No.	Description	GM-X414/X1H/ES	GM-X414/X1R/ES
			Part No.	Part No.
	1	Contain Box	HHL0077	HHL0114
	2	Carton	HHG0077	HHG0114
	5-1	Screw Assy	HEA0003	HEA0010
	5-4	Terminal(x8)		HKC0003

EXTERIOR

● Parts List(Page 5)

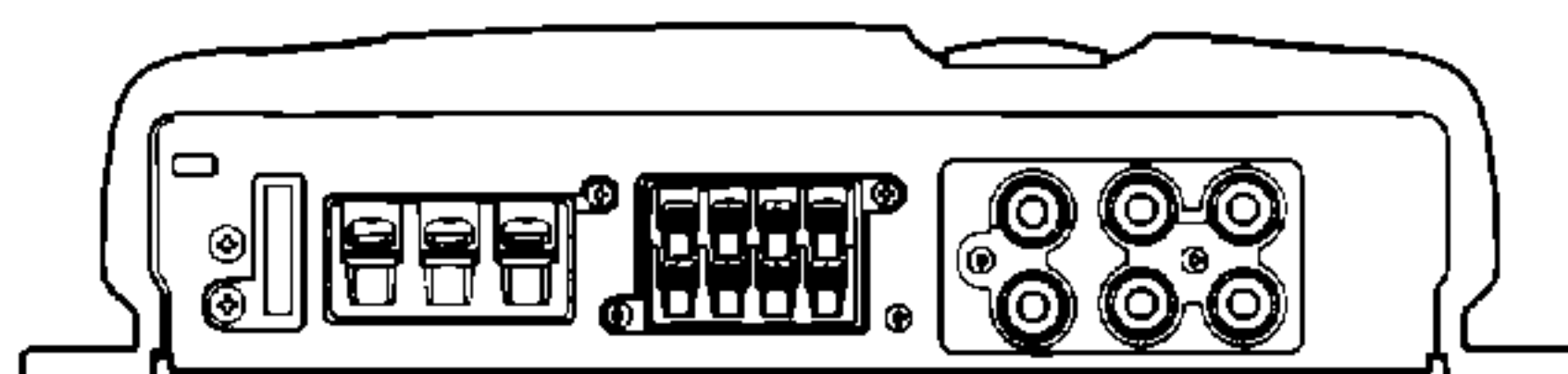
Mark	No.	Description	GM-X414/X1H/UC	GM-X414/X1R/UC
			Part No.	Part No.
	11	Amp Unit	HWH0006	HWH0030
	28	Pin Jack(CN852)	HKB0002	CKB1013
	29	Pin Jack(CN851)	HKB0004	CKB1022

Mark	No.	Description	GM-X414/X1H/ES	GM-X414/X1R/ES
			Part No.	Part No.
	11	Amp Unit	HWH0005	HWH0029

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ORDER NO.
CRT1941

BRIDGEABLE FOUR-CHANNEL POWER AMPLIFIER

GM-X414

X1H/UC, X1H/ES

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1. SAFETY INFORMATION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual. Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

UC model

CAUTION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual. Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely; you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

Lead in solder used in this product is listed by the California Health and Welfare agency as a known reproductive toxicant which may cause birth defects or other reproductive harm (California Health & Safety Code, Section 25249.5). When servicing or handling circuit boards and other components which contain lead in solder, avoid unprotected skin contact with the solder. Also, when soldering do not inhale any smoke or fumes produced.

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2. EXPLODED VIEWS AND PARTS LIST

2.1 PACKING METHOD

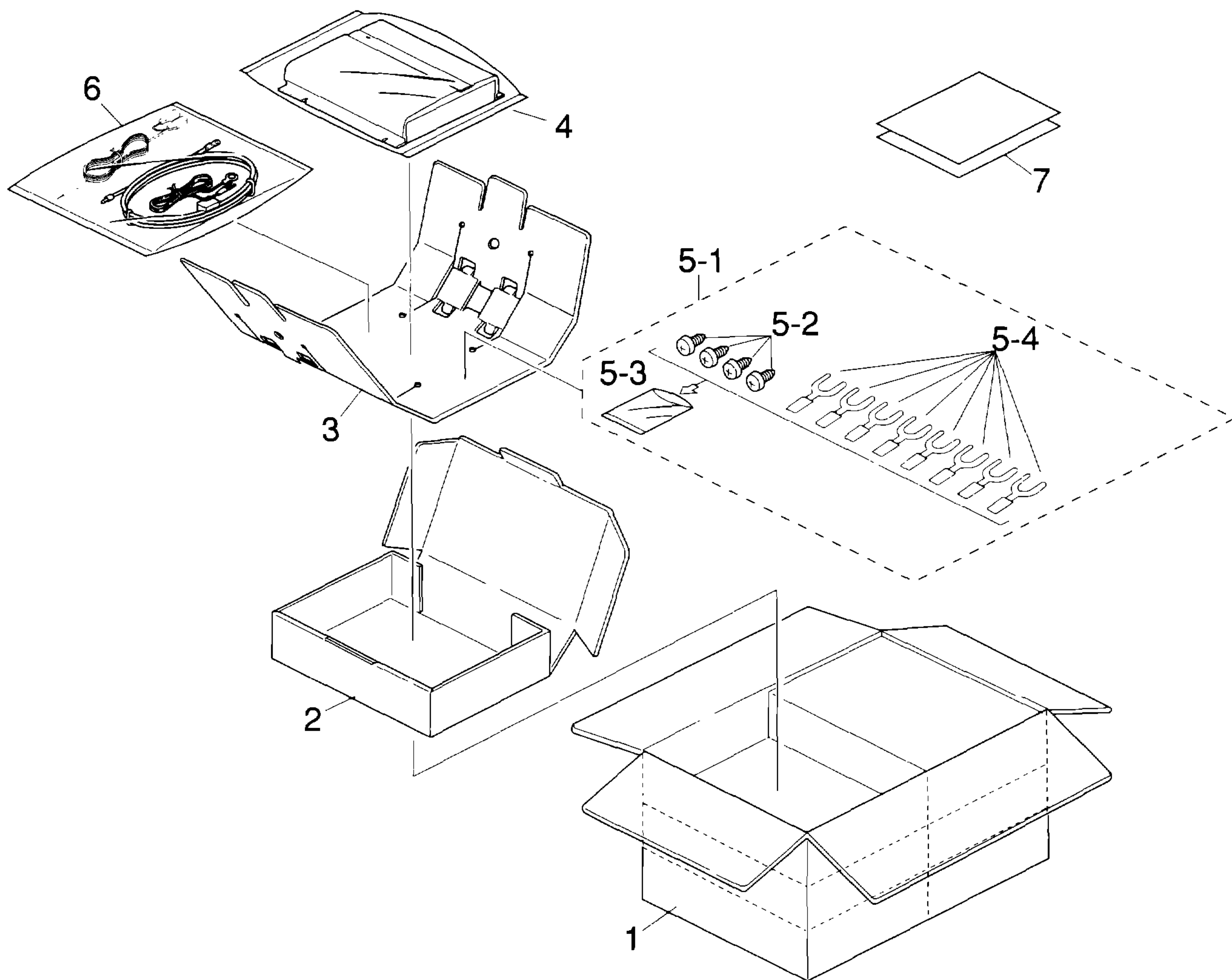


Fig. 1

NOTE:

- Parts marked by “*” are generally unavailable because they are not in our Master Spare Parts List.
- Screws adjacent to ▼ mark on the product are used for disassembly.

(1) PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	Contain Box	See Contrast table (2)	5-2	Screw(x4)	BYC40P180FZK
2	Carton	See Contrast table (2)	5-3	Polyethylene Bag	HEG0011
3	Protector	HHP0001	5-4	Terminal(x8)	See Contrast table (2)
4	Polyethylene Bag	HEG0009	6	Cord Assy	See Contrast table (2)
5-1	Screw Assy	See Contrast table (2)	7-1	Owner's Manual	See Contrast table (2)
			*	7-2 Warranty Card	See Contrast table (2)
			*	7-3 Caution Card	HRP0001
			*	7-4 Caution Card	See Contrast table (2)

(2) CONTRAST TABLE

GM-X414/X1H/UC and GM-X414/X1H/ES have the same construction except for the following:

Mark	No.	Symbol & Description	Part No.	
			GM-X414/X1H/UC	GM-X414/X1H/ES
	1	Contain Box	HHL0074	HHL0077
	2	Carton	HHG0074	HHG0077
	5-1	Screw Assy	HEA0008	HEA0010
	5-2	Terminal(x8)	HKC0001	HKC0003
	6	Cord Assy	Not used	HDE4419
	7-1	Owner's Manual	HRD0029	HRD0031
*	7-2	Warranty Card	HRY1070	Not used
*	7-4	Caution Card	HRD0006	Not used

● Owner's Manual

Part No.	Model	Language
HRD0029	GM-X414/X1H/UC	English, French
HRD0031	GM-X414/X1H/ES	English, Spanish, Arabic, Portuguese(B)

2.2 EXTERIOR

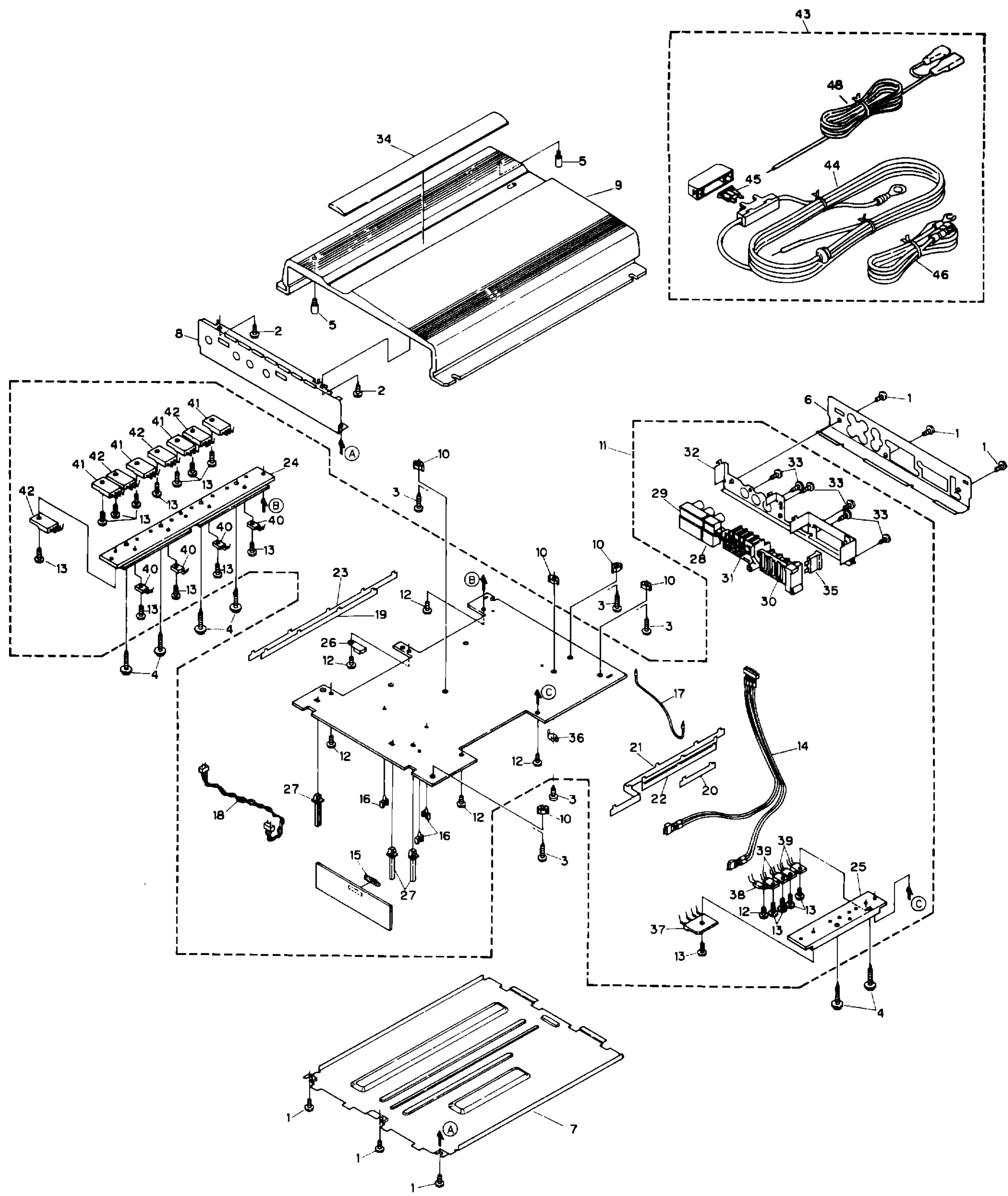


Fig. 2

(1) PARTS LIST

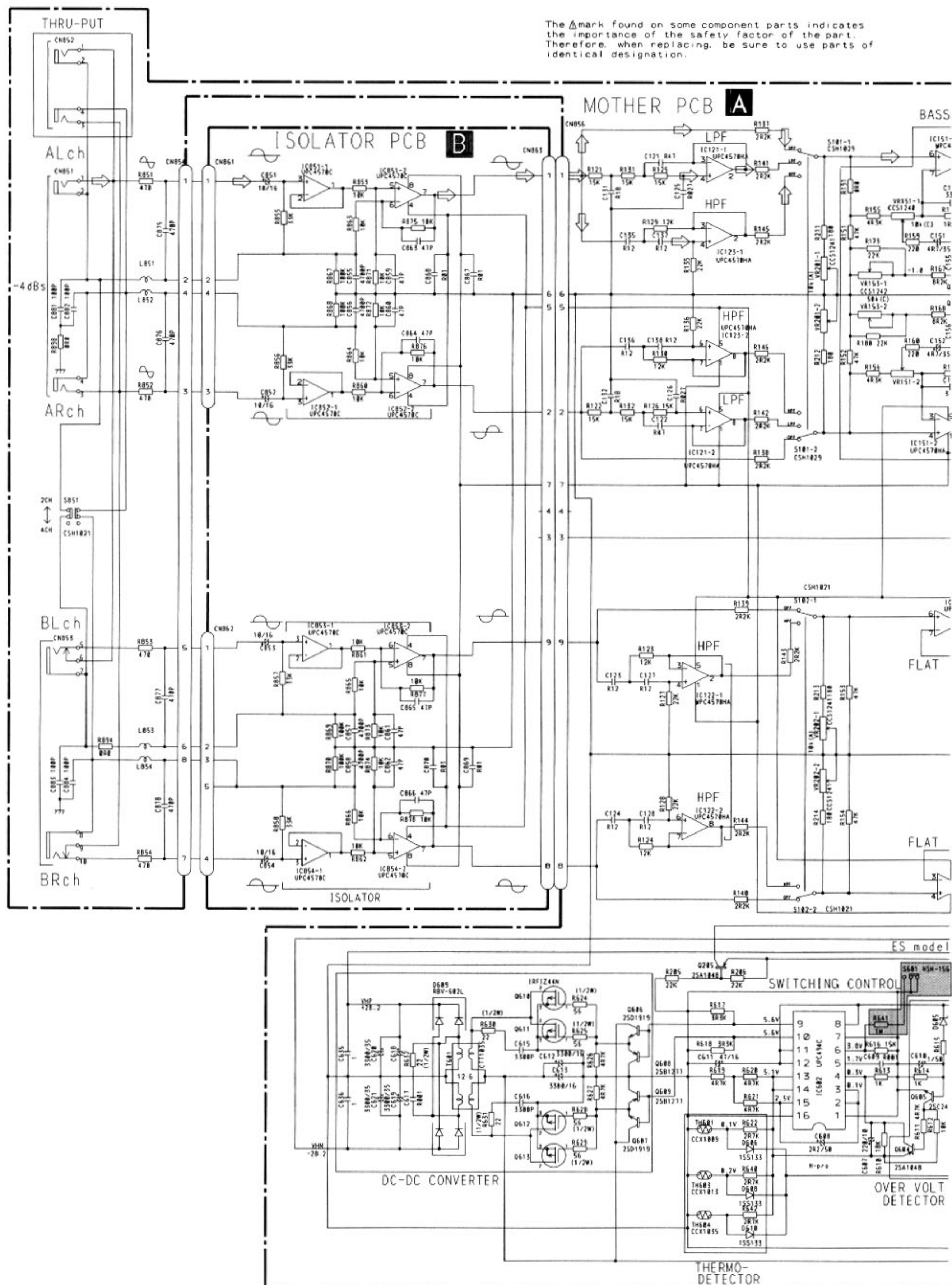
Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	Screw	BSZ30P050FZK	26	Clamper	HNV0003
2	Screw(M3x6)	CBA1320	27	Holder	HNV0005
3	Screw(M3x12)	CBA1323	28	Pin Jack(CN852)	See Contrast table (2)
4	Screw	CBA1382	29	Pin Jack(CN851)	See Contrast table (2)
5	Screw	HBA0006	30	Terminal(CN601)	See Contrast table (2)
6	Panel	HNB0009	31	Terminal(CN303)	See Contrast table (2)
7	Case	HNB0015	32	Holder	HNC0006
8	Panel	HNB0017	33	Screw	PPZ30P060FZK
9	Heat Sink	See Contrast table (2)	34	Plate Unit	See Contrast table (2)
10	Spacer	HNV3975	35	Fuse(FU999)(25A)	HEK0025
11	Amp Unit	See Contrast table (2)	36	Holder	CNC5399
12	Screw	BMS30P060FZK	37	Diode(D609)	RBV-602L
13	Screw	BMS30P080FMC	38	Thermistor(TH603)	CCX1013
14	Connector(CN854)	HDE5212	39	FET(Q610-613)	IRFIZ44N
15	Plug(CN863)	CKS1618	40	Transistor(Q313-316)	2SD2343
16	Clamper	CNV1335	41	Transistor(Q329-332)	2SB1587
17	Cord(CN901)	HDC1030	42	Transistor(Q325-328)	2SD2438
18	Cord	HDE4610	43	Cord Assy	See Contrast table (2)
19	Bass Bar	HNC0014	44	Cord Assy	See Contrast table (2)
20	Holder	HNC5538	45	Fuse(30A)	See Contrast table (2)
21	Holder	HNC5540	46	Cord	See Contrast table (2)
22	Holder	HNC5541	47		
23	Holder	HNC5841	48	Cord Assy	See Contrast table (2)
24	Heat Sink(Sub Heat Sink)	HNR0050			
25	Heat Sink(Sub Heat Sink)	HNR0052			

(2) CONTRAST TABLE

GM-X414/X1H/UC and GM-X414/X1H/ES have the same construction except for the following:

Mark No.	Symbol & Description	Part No.	
		GM-X414/X1H/UC	GM-X414/X1H/ES
9	Heat Sink	HNR0046	HNR0048
11	Amp Unit	HWH0006	HWH0005
28	Pin Jack(CN852)	CKB1013	CKB1011
29	Pin Jack(CN851)	CKB1022	CKB1021
30	Terminal(CN601)	HKE0002	HKE0001
31	Terminal(CN303)	HKE0006	HKE0005
34	Plate Unit	HXA0031	HXA0064
43	Cord Assy	Not used	HDE4419
44	Cord Assy	Not used	HDE4423
45	Fuse(30A)	Not used	HEK0030
46	Cord	Not used	HDE4455
48	Cord Assy	Not used	HDE0007

3. SCHEMATIC DIAGRAM



NOTE

- Symbol indicates a resistor.
No differentiation is made between chip resistors and discrete resistors.
- ⊢ Symbol indicates a capacitor.
No differentiation is made between chip capacitors and discrete capacitors.

Decimal points for resistor and capacitor fixed values are expressed as:
2.2→2R2
0.022→R022

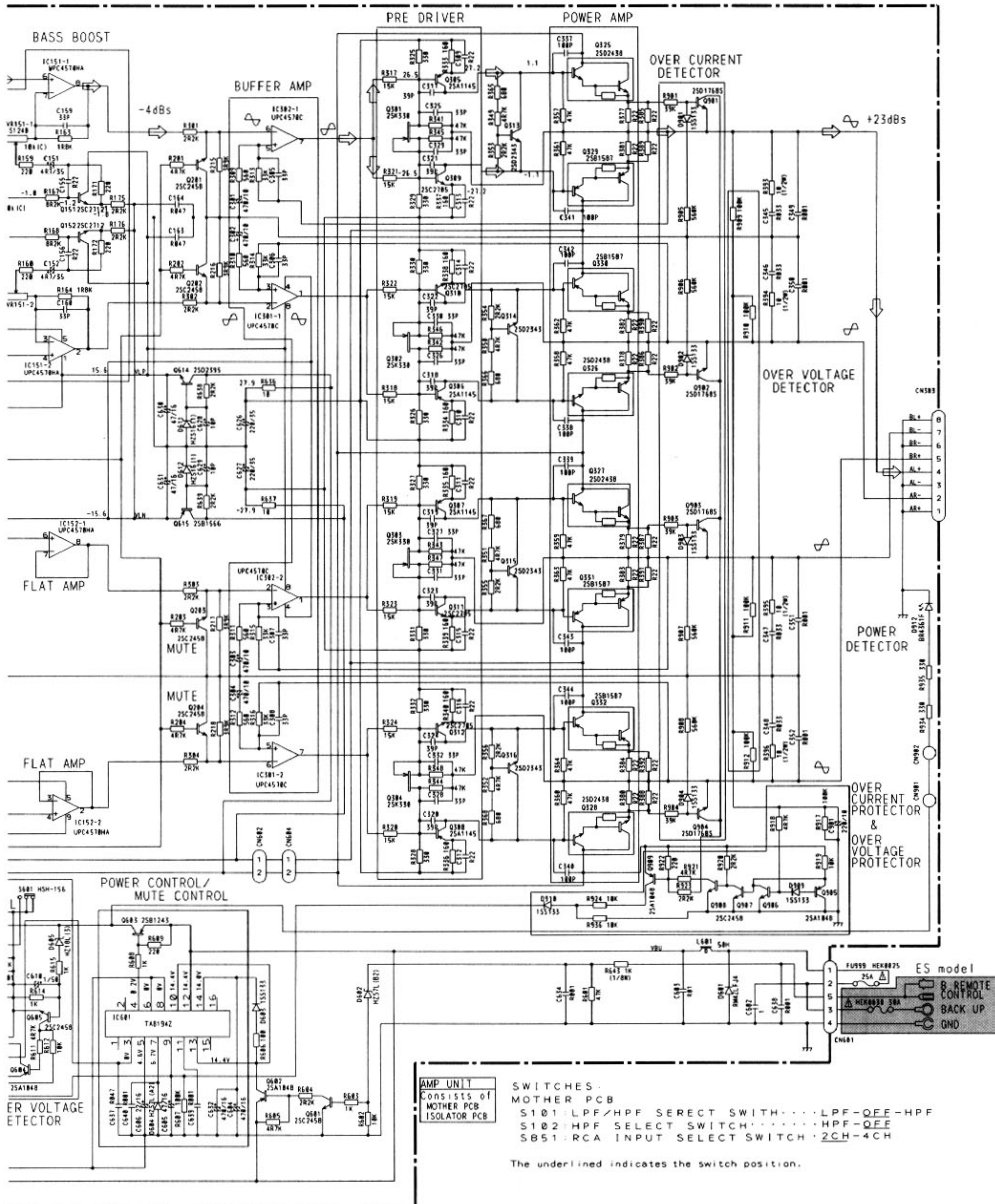


Fig. 3

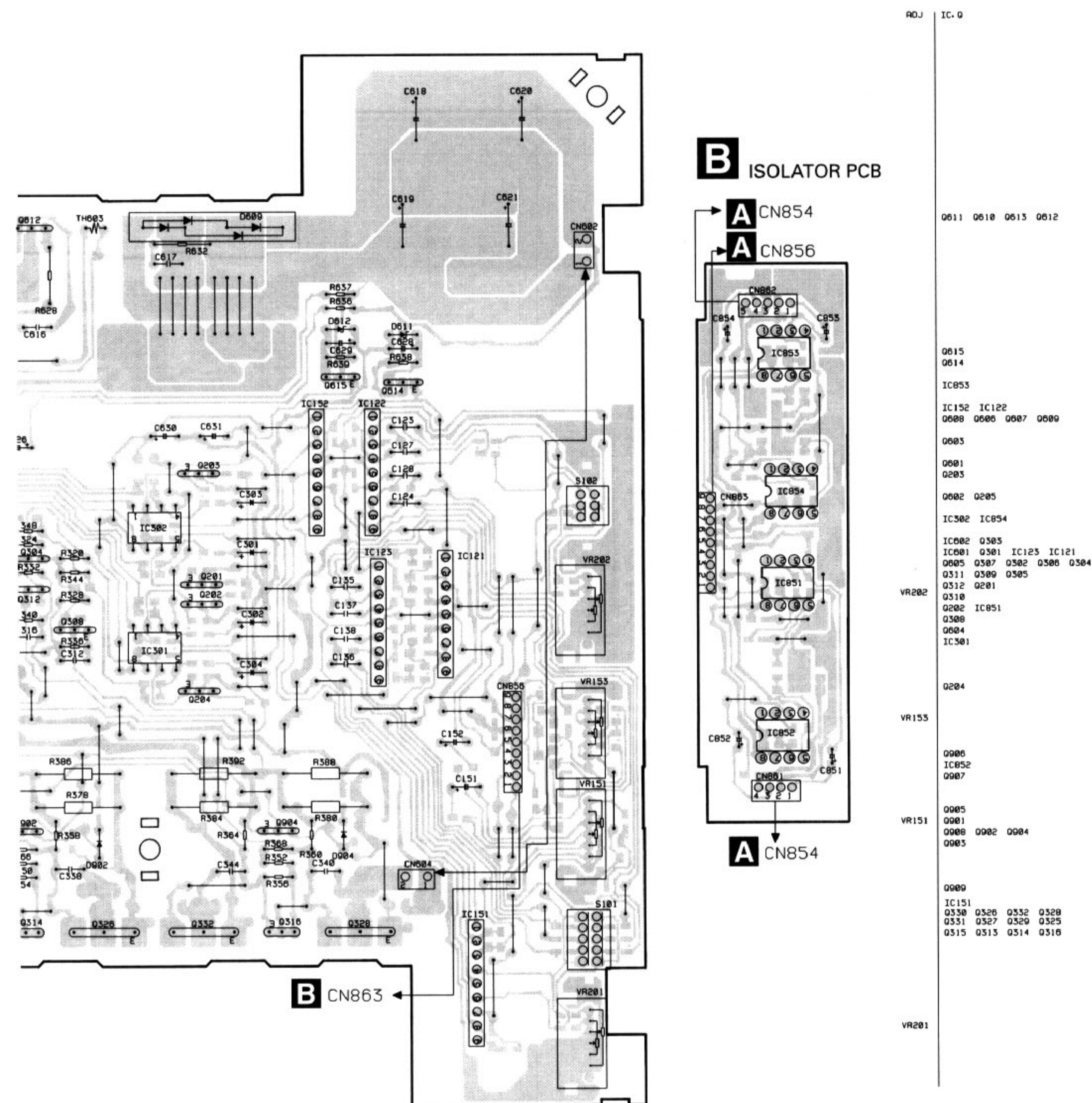
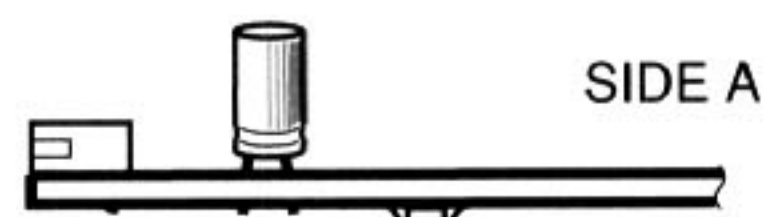
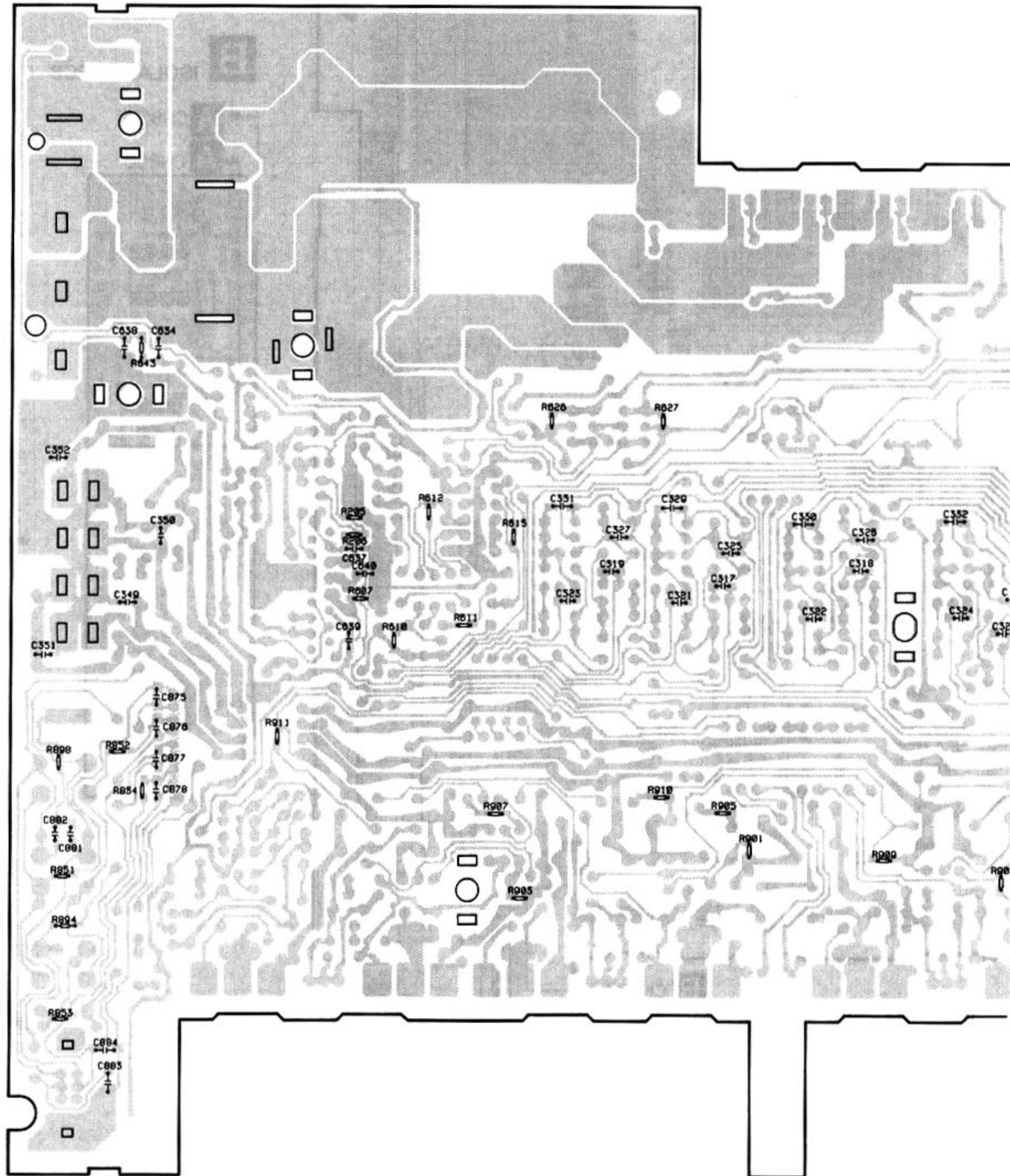
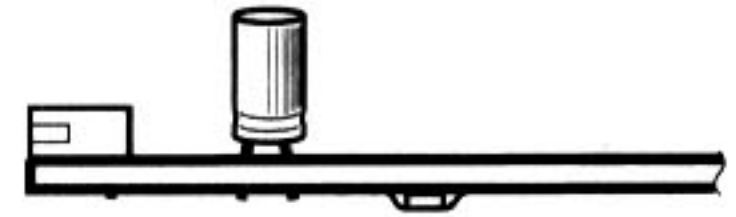


Fig. 4

A MOTHER PCB





IC. D

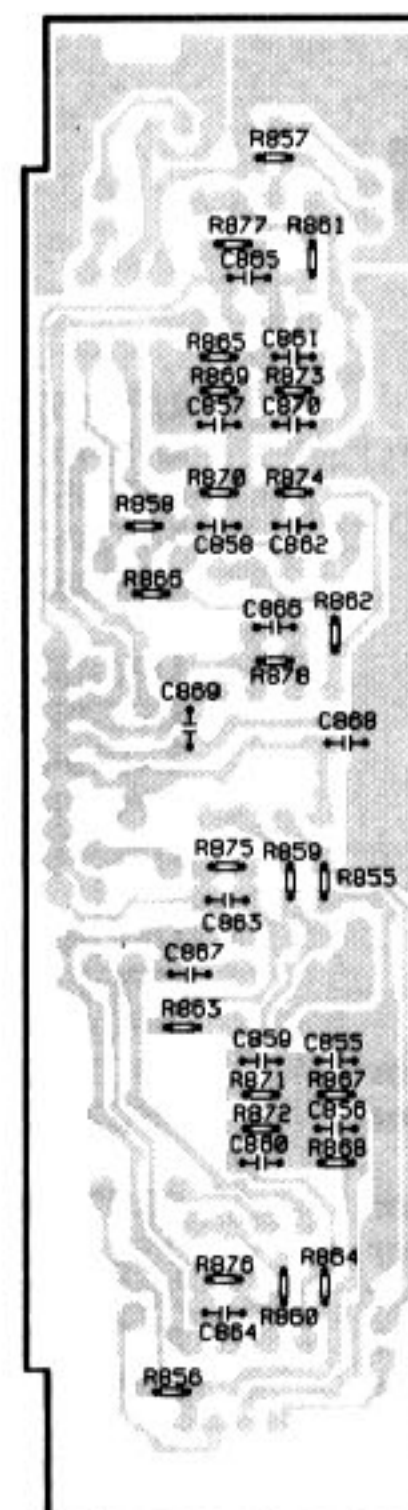
B ISOLATOR PCB

Fig. 5

5. ELECTRICAL PARTS LIST

NOTE:

- Parts whose parts numbers are omitted are subject to being not supplied.
- The part numbers shown below indicate chip components.

Chip Resistor

RS1/OSOOOJ.RS1/OOSOOOJ

Chip Capacitor (except for CQS.....)

CKS..... CCS..... CSZS.....

====Circuit Symbol & No.====	Part Name	Part No.	====Circuit Symbol & No.====	Part Name	Part No.
GM-X414/X1H/UC			Q 329	Transistor	2SB1587
AMP UNIT Consists of MOTHER PCB ISOLATOR PCB			Q 330	Transistor	2SB1587
			Q 331	Transistor	2SB1587
			Q 332	Transistor	2SB1587
			Q 601	Transistor	2SC2458
			Q 602	Transistor	2SA1048
A B Unit Number : HWH0006 Unit Name : Amp Unit			Q 603	Transistor	2SB1243
			Q 604	Transistor	2SA1048
			Q 605	Transistor	2SC2458
			Q 606	Transistor	2SD1919
			Q 607	Transistor	2SD1919
MISCELLANEOUS			Q 608	Transistor	2SB1277
IC121	IC	UPC4570HA	Q 609	Transistor	2SB1277
IC122	IC	UPC4570HA	Q 610	FET	IRFIZ44N
IC123	IC	UPC4570HA	Q 611	FET	IRFIZ44N
IC151	IC	UPC4570HA	Q 612	FET	IRFIZ44N
IC152	IC	UPC4570HA	Q 613	FET	IRFIZ44N
IC301	IC	UPC4570C	Q 614	Transistor	2SD2395
IC302	IC	UPC4570C	Q 615	Transistor	2SB1566
IC601	IC	TA8194Z	Q 901	Transistor	2SD1768S
IC602	IC	UPC494C	Q 902	Transistor	2SD1768S
IC851	IC	UPC4570C	Q 903	Transistor	2SD1768S
IC852	IC	UPC4570C	Q 904	Transistor	2SD1768S
IC853	IC	UPC4570C	Q 905	Transistor	2SA1048
IC854	IC	UPC4570C	Q 906	Transistor	2SC2458
Q 151	Transistor	2SC2712	Q 907	Transistor	2SC2458
Q 152	Transistor	2SC2712	Q 908	Transistor	2SC2458
Q 201	Transistor	2SC2458	Q 909	Transistor	2SA1048
Q 202	Transistor	2SC2458	D 601	Diode	RM4Z-LFJ4
Q 203	Transistor	2SC2458	D 602	Diode	HZS7L(B2)
Q 204	Transistor	2SC2458	D 603	Diode	1SS133
Q 205	Transistor	2SA1048	D 604	Diode	HZS7L(A2)
Q 301	Transistor	2SK330	D 605	Diode	HZS18L(3)
Q 302	Transistor	2SK330	D 606	Diode	1SS133
Q 303	Transistor	2SK330	D 608	Diode	1SS133
Q 304	Transistor	2SK330	D 609	Diode	RBV-602L
Q 305	Transistor	2SA1145	D 610	Diode	1SS133
Q 306	Transistor	2SA1145	D 611	Diode	HZS16L(1)
Q 307	Transistor	2SA1145	D 612	Diode	HZS16L(1)
Q 308	Transistor	2SA1145	D 901	Diode	1SS133
Q 309	Transistor	2SC2705	D 902	Diode	1SS133
Q 310	Transistor	2SC2705	D 903	Diode	1SS133
Q 311	Transistor	2SC2705	D 904	Diode	1SS133
Q 312	Transistor	2SC2705	D 909	Diode	1SS133
Q 313	Transistor	2SD2343	D 910	Diode	1SS133
Q 314	Transistor	2SD2343	D 912	LED	BR4361F
Q 315	Transistor	2SD2343	L 601	Choke Coil 50H	CTH1142
Q 316	Transistor	2SD2343	L 851	Ferri-Inductor	CTF1007
Q 325	Transistor	2SD2438	L 852	Ferri-Inductor	CTF1007
Q 326	Transistor	2SD2438	L 853	Ferri-Inductor	CTF1007
Q 327	Transistor	2SD2438	L 854	Ferri-Inductor	CTF1007
Q 328	Transistor	2SD2438	T 601	Transformer	HTT1035
			TH601	Thermistor	CCX1009
			TH603	Thermistor	CCX1013
			TH604	Thermistor	CCX1035

====Circuit Symbol & No.===Part Name	Part No.	====Circuit Symbol & No.===Part Name	Part No.
S 101	Switch	CSH1029	R 301
S 102	Switch	CSH1021	R 302
S 851	Switch	CSH1021	R 303
VR151	Volume 10K Ω (C)	CCS1240	R 304
VR153	Volume 50K Ω (C)	CCS1242	R 309
VR201	Volume 10K Ω (A)	CCS1241	R 310
VR202	Volume 10K Ω (A)	CCS1241	R 311
FU999	Fuse 25A	HEK0025	R 312
RESISTORS			R 313
			R 314
R 121	RS1/10S153J	R 315	RS1/10S333J
R 122	RS1/10S153J	R 316	RS1/10S333J
R 123	RS1/10S123J	R 317	RD1/4PU153J
R 124	RS1/10S123J	R 318	RD1/4PU153J
R 125	RS1/10S153J	R 319	RD1/4PU153J
R 126	RS1/10S153J	R 320	RD1/4PU153J
R 127	RS1/10S223J	R 321	RD1/4PU153J
R 128	RS1/10S223J	R 322	RD1/4PU153J
R 129	RS1/10S123J	R 323	RD1/4PU153J
R 130	RS1/10S123J	R 324	RD1/4PU153J
R 131	RS1/10S153J	R 325	RD1/4PU331J
R 132	RS1/10S153J	R 326	RD1/4PU331J
R 135	RS1/10S223J	R 327	RD1/4PU331J
R 136	RS1/10S223J	R 328	RD1/4PU331J
R 137	RS1/10S222J	R 329	RD1/4PU331J
R 138	RS1/10S222J	R 330	RD1/4PU331J
R 139	RS1/10S222J	R 331	RD1/4PU331J
R 140	RS1/10S222J	R 332	RD1/4PU331J
R 141	RS1/10S222J	R 333	RD1/4PU161J
R 142	RS1/10S222J	R 334	RD1/4PU161J
R 143	RS1/10S222J	R 335	RD1/4PU161J
R 144	RS1/10S222J	R 336	RD1/4PU161J
R 145	RS1/10S222J	R 337	RD1/4PU161J
R 146	RS1/10S222J	R 338	RD1/4PU161J
R 151	RS1/10S473J	R 339	RD1/4PU161J
R 152	RS1/10S473J	R 340	RD1/4PU161J
R 153	RS1/10S473J	R 341	RD1/4PU473J
R 154	RS1/10S473J	R 342	RD1/4PU473J
R 155	RS1/10S432J	R 343	RD1/4PU473J
R 156	RS1/10S432J	R 344	RD1/4PU473J
R 159	RS1/10S221J	R 345	RD1/4PU473J
R 160	RS1/10S221J	R 346	RD1/4PU473J
R 163	RS1/10S182J	R 347	RD1/4PU473J
R 164	RS1/10S182J	R 348	RD1/4PU473J
R 167	RS1/10S822J	R 349	RD1/4PU472J
R 168	RS1/10S822J	R 350	RD1/4PU472J
R 171	RS1/10S221J	R 351	RD1/4PU472J
R 172	RS1/10S221J	R 352	RD1/4PU472J
R 175	RS1/10S222J	R 353	RD1/4PU222J
R 176	RS1/10S222J	R 354	RD1/4PU222J
R 191	RS1/8S0R0J	R 355	RD1/4PU222J
R 201	RS1/10S472J	R 356	RD1/4PU222J
R 202	RS1/10S472J	R 357	RD1/4PU473J
R 203	RS1/10S472J	R 358	RD1/4PU473J
R 204	RS1/10S472J	R 359	RD1/4PU473J
R 205	RS1/10S223J	R 360	RD1/4PU473J
R 206	RS1/10S223J	R 361	RD1/4PU473J
R 211	RS1/10S181J	R 362	RD1/4PU473J
R 212	RS1/10S181J	R 363	RD1/4PU473J
R 213	RS1/10S181J	R 364	RD1/4PU473J
R 214	RS1/10S181J	R 365	RD1/4PU681J
R 215	RS1/10S392J	R 366	RD1/4PU681J
R 216	RS1/10S392J	R 367	RD1/4PU681J
R 217	RS1/10S392J	R 368	RD1/4PU681J
R 218	RS1/10S392J	R 377	CCN1013

0.22 Ω

GM-X414

====Circuit Symbol & No.===Part Name		Part No.	====Circuit Symbol & No.===Part Name	Part No.
R 378	0.22Ω	CCN1013	R 859	RN1/10SE1002D
R 379	0.22Ω	CCN1013	R 860	RN1/10SE1002D
R 380	0.22Ω	CCN1013	R 861	RN1/10SE1002D
R 381	0.22Ω	CCN1013	R 862	RN1/10SE1002D
R 382	0.22Ω	CCN1013	R 863	RN1/10SE1002D
R 383	0.22Ω	CCN1013	R 864	RN1/10SE1002D
R 384	0.22Ω	CCN1013	R 865	RN1/10SE1002D
R 385	0.22Ω	CCN1013	R 866	RN1/10SE1002D
R 386	0.22Ω	CCN1013	R 867	RS1/10S104J
R 387	0.22Ω	CCN1013	R 868	RS1/10S104J
R 388	0.22Ω	CCN1013	R 869	RS1/10S104J
R 389	0.22Ω	CCN1013	R 870	RS1/10S104J
R 390	0.22Ω	CCN1013	R 871	RN1/10SE1002D
R 391	0.22Ω	CCN1013	R 872	RN1/10SE1002D
R 392	0.22Ω	CCN1013	R 873	RN1/10SE1002D
R 393		RS1/2PMF100J	R 874	RN1/10SE1002D
R 394		RS1/2PMF100J	R 875	RN1/10SE1002D
R 395		RS1/2PMF100J	R 876	RN1/10SE1002D
R 396		RS1/2PMF100J	R 877	RN1/10SE1002D
R 601		RD1/4PU473J	R 878	RN1/10SE1002D
R 602		RD1/4PU103J	R 894	RS1/8S0R0J
R 603		RD1/4PU103J	R 898	RS1/10S0R0J
R 604		RD1/4PU222J	R 901	RS1/10S393J
R 605		RD1/4PU472J	R 902	RS1/10S393J
R 606		RD1/4PU101J	R 903	RS1/10S393J
R 607		RS1/10S104J	R 904	RS1/10S393J
R 608		RD1/4PU102J	R 905	RS1/10S564J
R 609		RD1/4PU221J	R 906	RS1/10S564J
R 610		RS1/10S183J	R 907	RS1/10S564J
R 611		RS1/10S472J	R 908	RS1/10S564J
R 612		RS1/10S103J	R 909	RS1/10S104J
R 613		RD1/4PU102J	R 910	RS1/10S104J
R 614		RD1/4PU102J	R 911	RS1/10S104J
R 615		RS1/10S102J	R 912	RS1/10S104J
R 616		RD1/4PU153J	R 917	RD1/4PU104J
R 617		RD1/4PU332J	R 918	RD1/4PU472J
R 618		RD1/4PU332J	R 919	RD1/4PU103J
R 619		RD1/4PU472J	R 920	RD1/4PU222J
R 620		RD1/4PU472J	R 921	RD1/4PU472J
R 621		RD1/4PU472J	R 922	RD1/4PU221J
R 622		RD1/4PU272J	R 923	RD1/4PU222J
R 624		RS1/2PMF560J	R 924	RD1/4PU103J
R 625		RS1/2PMF560J	R 934	RD1/4PU331J
R 626		RS1/10S472J	R 935	RD1/4PU331J
R 627		RS1/10S472J	R 936	RD1/4PU103J
R 628		RS1/2PMF560J	CAPACITORS	
R 629		RS1/2PMF560J		
R 630		RS1/2PMF220J	C 121	CKSYB474K16
R 631		RS1/2PMF220J	C 122	CKSYB474K16
R 632		RS1/2PMF220J	C 123	CFTNA124J50
			C 124	CFTNA124J50
R 636		RD1/4PU100J	C 125	CKSYB273K25
R 637		RD1/4PU100J		
R 638		RD1/4PU222J	C 126	CKSYB273K25
R 639		RD1/4PU222J	C 127	CFTNA124J50
R 640		RD1/4PU272J	C 128	CFTNA124J50
			C 131	CKSYB184K16
R 642		RD1/4PU272J	C 132	CKSYB184K16
R 643		RS1/8S102J		
R 851		RS1/10S471J	C 135	CFTNA124J50
R 852		RS1/10S471J	C 136	CFTNA124J50
R 853		RS1/10S471J	C 137	CFTNA124J50
			C 138	CFTNA124J50
R 854		RS1/10S471J	C 151	CEAS4R7M35
R 855		RS1/10S333J		
R 856		RS1/10S333J	C 152	CEAS4R7M35
R 857		RS1/10S333J	C 155	CKSYB224K16
R 858		RS1/10S333J	C 156	CKSYB224K16
			C 159	CCSQCH330J50
			C 160	CCSQCH330J50

====Circuit Symbol & No.====Part Name	Part No.	====Circuit Symbol & No.====Part Name	Part No.
C 163	CKSQYB473K25	C 612	3300μF/16V
C 164	CKSQYB473K25	C 613	3300μF/16V
C 301	CEAS471M10	C 615	
C 302	CEAS471M10	C 616	
C 303	CEAS471M10	C 617	
C 304	CEAS471M10	C 618	3300μF/35V
C 305	CCSQCH330J50	C 619	3300μF/35V
C 306	CCSQCH330J50	C 620	3300μF/35V
C 307	CCSQCH330J50	C 621	3300μF/35V
C 308	CCSQCH330J50	C 626	
C 309	CFTNA224J50	C 627	
C 310	CFTNA224J50	C 628	
C 311	CFTNA224J50	C 629	
C 312	CFTNA224J50	C 630	
C 313	CFTNA224J50	C 631	
C 314	CFTNA224J50	C 632	470μF/16V
C 315	CFTNA224J50	C 634	
C 316	CFTNA224J50	C 635	
C 317	CCSQCH390J50	C 636	
C 318	CCSQCH390J50	C 637	
C 319	CCSQCH390J50	C 638	
C 320	CCSQCH390J50	C 639	
C 321	CCSQCH390J50	C 640	
C 322	CCSQCH390J50	C 851	
C 323	CCSQCH390J50	C 852	
C 324	CCSQCH390J50	C 853	
C 325	CCSQCH330J50	C 854	
C 326	CCSQCH330J50	C 855	
C 327	CCSQCH330J50	C 856	
C 328	CCSQCH330J50	C 857	
C 329	CCSCH330J50	C 858	
C 330	CCSCH330J50	C 859	
C 331	CCSCH330J50	C 860	
C 332	CCSCH330J50	C 861	
C 337	CCCSL101J50	C 862	
C 338	CCCSL101J50	C 863	
C 339	CCCSL101J50	C 864	
C 340	CCCSL101J50	C 865	
C 341	CCCSL101J50	C 866	
C 342	CCCSL101J50	C 867	
C 343	CCCSL101J50	C 868	
C 344	CCCSL101J50	C 869	
C 345	CFTNA333J50	C 870	
C 346	CFTNA333J50	C 875	
C 347	CFTNA333J50	C 876	
C 348	CFTNA333J50	C 877	
C 349	CKSQYB102K50	C 878	
C 350	CKSQYB102K50	C 881	
C 351	CKSQYB102K50	C 882	
C 352	CKSQYB102K50	C 883	
C 602	CFTNA105J50	C 884	
C 603	CFTNA103J50	C 901	220μF/10V
C 604	CCH1183		
C 605	CEAS470M16		
C 606	CEAS220M16		
C 607	CEAS221M10		
C 608	CEAS2R2M50		
C 609	CQMA102J50		
C 610	CEAS1R0M50		
C 611	CEAS470M16		

GM-X414/X1H/UC and GM-X414/X1H/ES have the same construction except for the following:

● Amp Unit

Circuit Symbol & No.	GM-X414/X1H/UC	GM-X414/X1H/ES
	Part No.	Part No.
S601	Not used	HSH-156
R641	Not used	RD1/4PU105J

6. ADJUSTMENT

There is no information to be shown in this chapter.

7. GENERAL INFORMATION

7.1 DISASSEMBLY

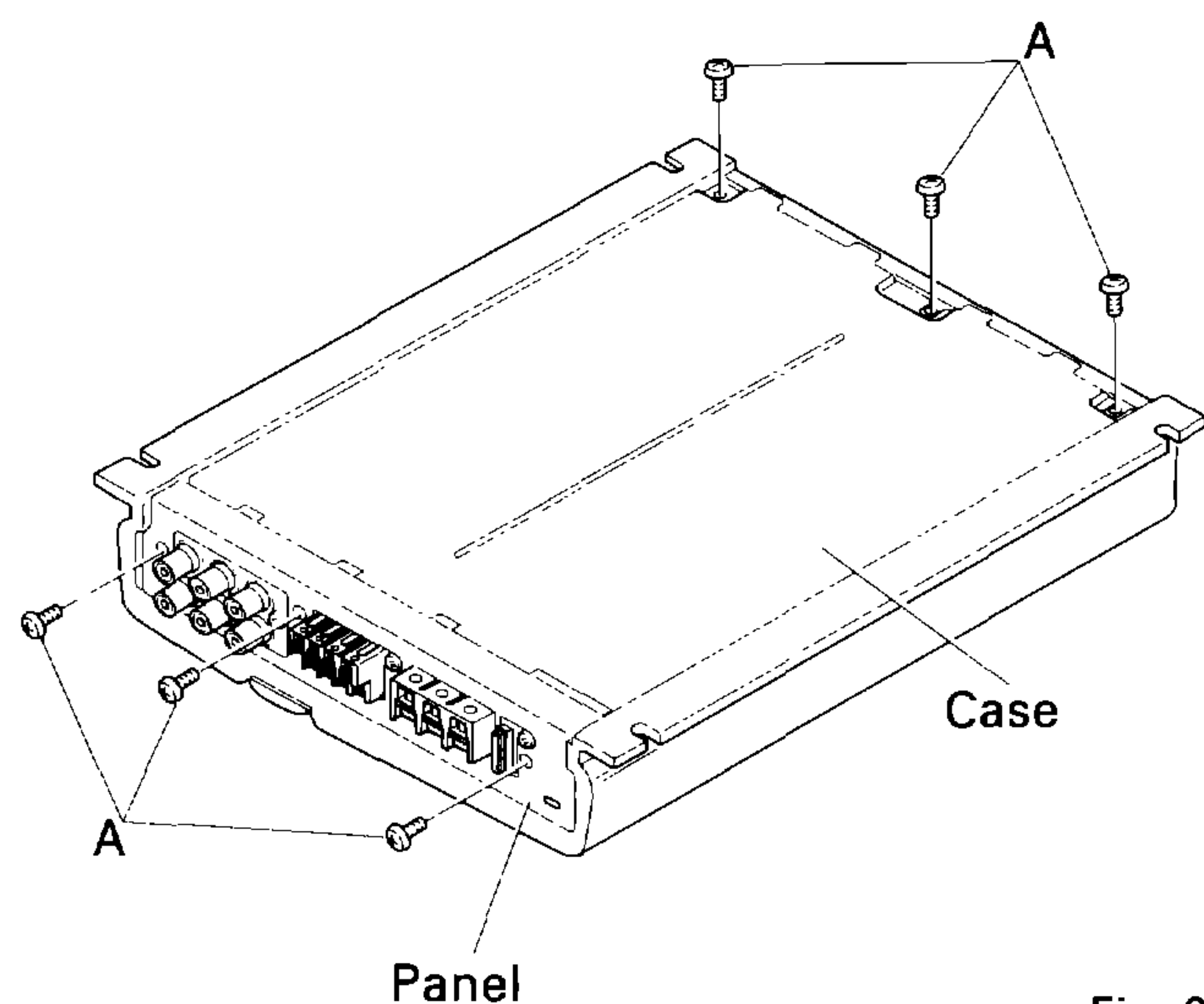


Fig. 6

● Removing the Case and Panel

1. Remove six screws A, and then remove case.
2. Remove panel.

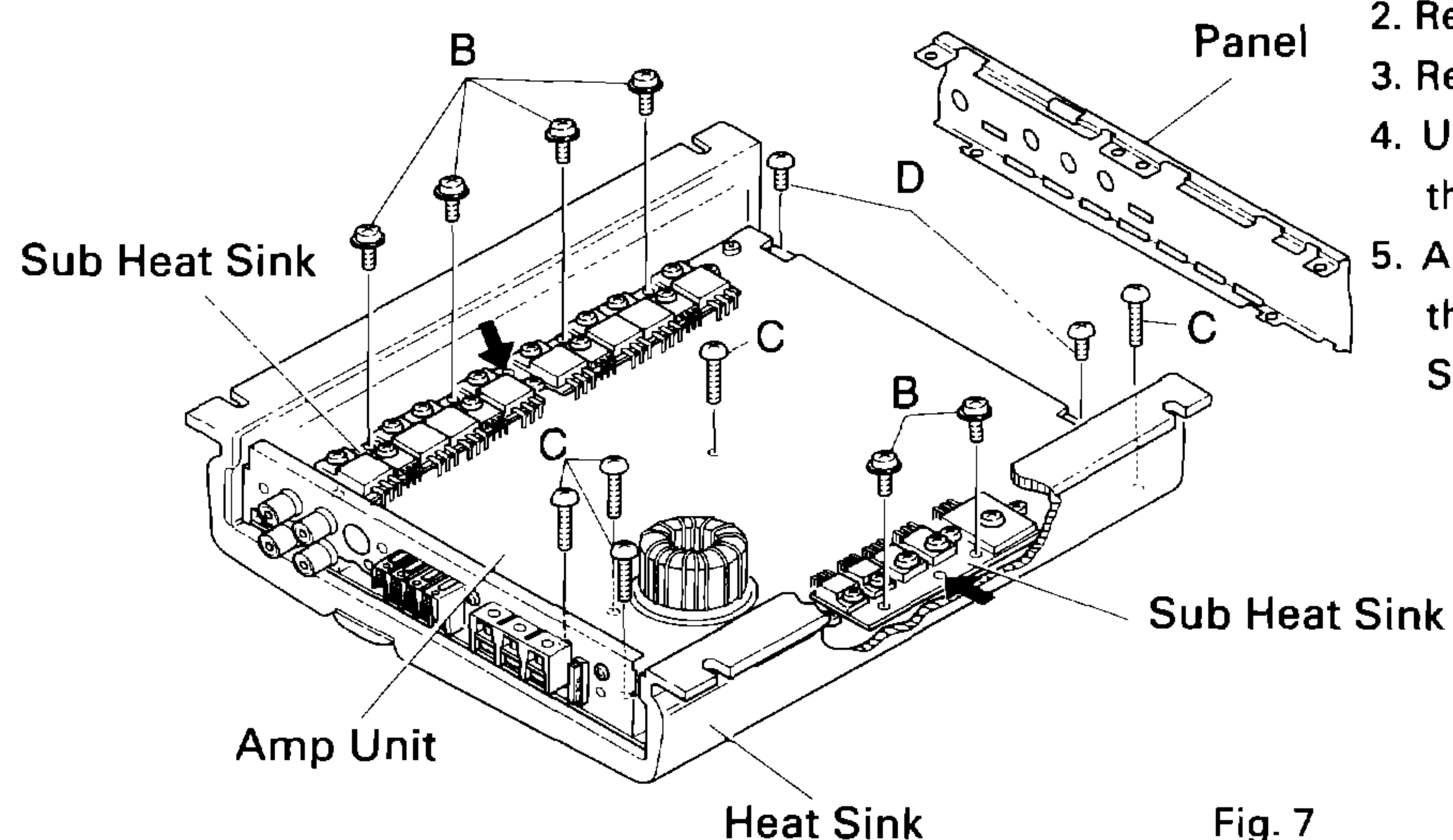


Fig. 7

● Removing the Amp Unit

Some silicone glue has been applied between the Heat Sink and the Sub Heat Sink. therefore, to remove the Amp Unit from the Heat Sink.

1. Remove two screws D.
2. Remove Panel.
3. Remove six screws B and five screws C.
4. Use 2 pcs. of screw B and insert them into the two holes marked with an arrow.
5. Alternately tighten them little by little until the Sub Heat Sink separates from the Heat Sink.

8. OPERATIONS AND SPECIFICATIONS

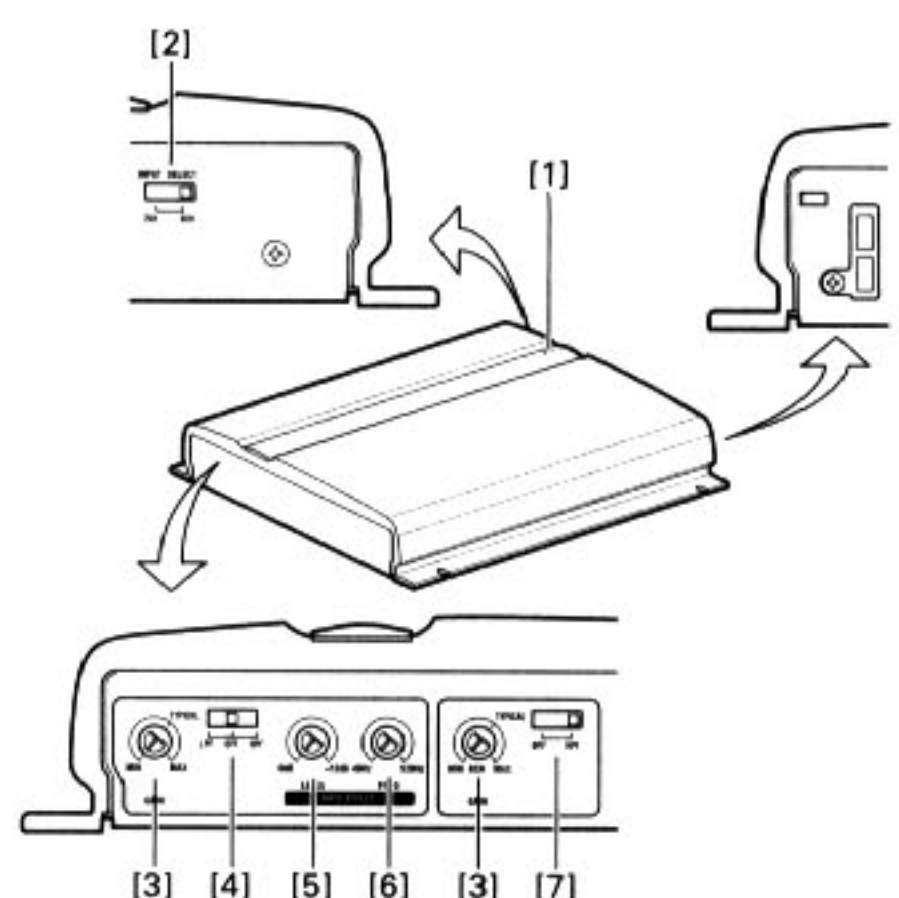


Fig. 8

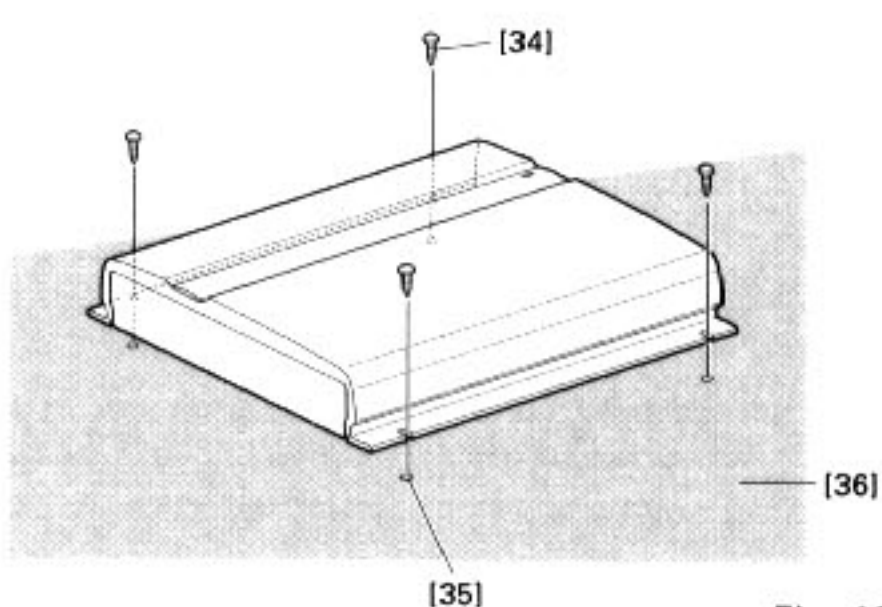


Fig. 10

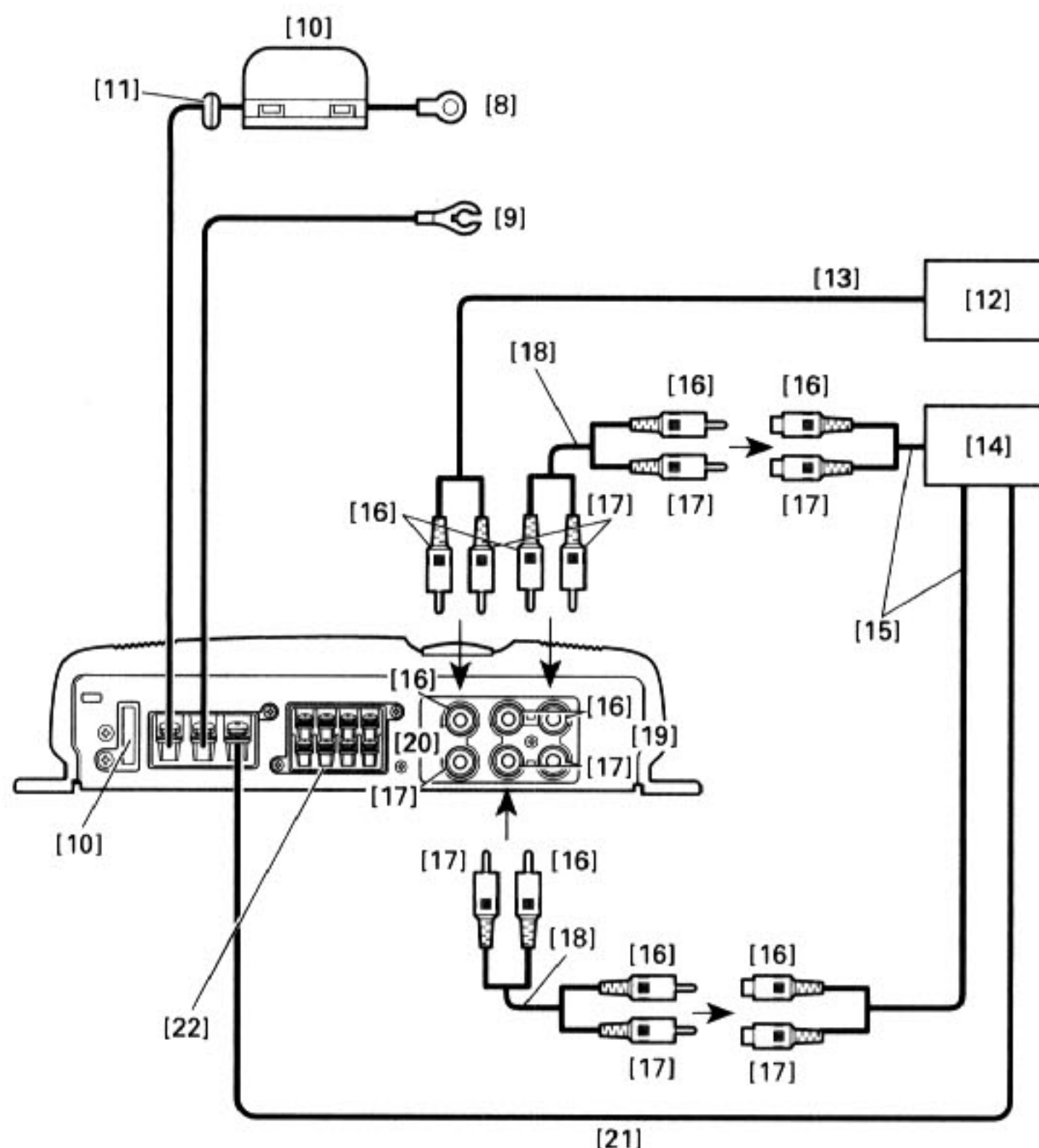


Fig. 9

Setting the Unit

(Fig. 8)

[1] Power Indicator

The power indicator lights when the power is switched on.

[2] RCA Input Select Switch

For two-channel input, slide this switch to the left. For four-channel input, slide this switch to the right.

[3] Input Level Adjustment

Adjusting the input level controls A and B will help match the output of the car stereo to the Pioneer amplifier. Input level control A is used to adjust the volume of speaker output A; input level control B is used to adjust the volume of speaker output B. Normally, set the switch to the "TYPICAL" position. If the output is low even when the volume of the car stereo is turned up, turn these controls clockwise. If there is distortion when the volume of the car stereo is turned up, turn these controls counter clockwise.

- If you only use one input pin plug, set the input level controls for speaker outputs A and B to the same position.
- Set the input level control to "TYPICAL" when this amplifier is connected to a Pioneer car stereo with RCA output jacks. If the sound is too low or distorts, adjust the input level control.

[4] Speaker Out A: LPF (Low-Pass Filter)/HPF (High-Pass Filter) Select Switch

Set the LPF/HPF select switch as follows according to the type of the speaker that is connected to the speaker output connector and the car stereo system:

LPF/HPF Select Switch	Audio frequency range to be output	Speaker Type
LPF (left)	Very-low-frequency range	Sub-woofer
OFF (center)	Very-low-frequency range to high-frequency range	Other than sub-woofer
HPF (right) *	Low-frequency range to high-frequency range	Other than sub-woofer

* Set the LPF/HPF select switch to the HPF (right) position if you want to cut the very-low-frequency range because it is not necessary for the speaker you use.

[5] Speaker Out A: Bass Boost Level Control

Bass boost level control can boost the level around the frequency selected by the bass boost frequency control to 0 to 12 dB.

[6] Speaker Out A: Bass Boost Frequency Control

You can select a bass boost frequency from 40 to 120 Hz with the bass boost control.

- [5], [6] can be adjusted only when the LPF/HPF select switch is set to a position other than HPF.

[7] Speaker Out B: HPF (High-Pass Filter) Select Switch

Set the HPF select switch as follows according to the car stereo system and the type of speaker connected to the speaker output:

HPF Select Switch	Audio frequency range to be output	Speaker Type
OFF (left)	Very-low-frequency range to high-frequency range	Other than sub-woofer
HPF (right) *	Low-frequency range to high-frequency range	Other than sub-woofer

* Set the HPF select switch to the HPF (right) position if you want to cut the very-low-frequency range because it is not necessary for the speaker you use.

(Fig. 9)

[8] Special red battery wire [RD-222] (sold separately)

After making all other connections at the amplifier, connect the battery wire terminal of the amplifier to the positive (+) terminal of the battery.

[9] Ground wire (black) [RD-222] (sold separately)

Connect to metal body or chassis.

[10] Fuse (Special red battery wire: 30 A, Amplifier: 25 A)

- [11] Grommet
 - [12] Amplifier with RCA input jacks
 - [13] RCA input
 - [14] Car stereo with RCA output jacks
 - [15] External Output
- For details on how to connect to RCA input jacks A and B, see the "Connecting the Speakers and Input wires" section.
- If only input pin plug, do not connect anything to RCA input jack B.
- [16] White
 - [17] Red
 - [18] Connecting wires with RCA pin plugs (sold separately)
 - [19] RCA input jack A, B
 - [20] RCA output jack
 - [21] Blue
- Connect the male terminal of this wire to the blue wire of the car stereo (system control terminal). The female terminal can be connected to the auto-antenna relay control terminal.
- If the car stereo does not have a system remote control terminal, connect the male terminal to the power terminal through the ignition switch.
- [22] Speaker output terminal
- See the "Connecting the Speakers and Input wires" section for speaker connection instructions.

Connecting the Power Terminal

- Always use the special red battery and ground wire [RD-222], which is sold separately. Connect the special red battery wire directly to the car battery positive terminal (+) and the black ground wire to the car body. (The special red battery and ground wire [RD-222] are designed so that the amplifier can be safely connected.)

1. Pass the special red battery wire from the engine compartment to the interior of the vehicle.

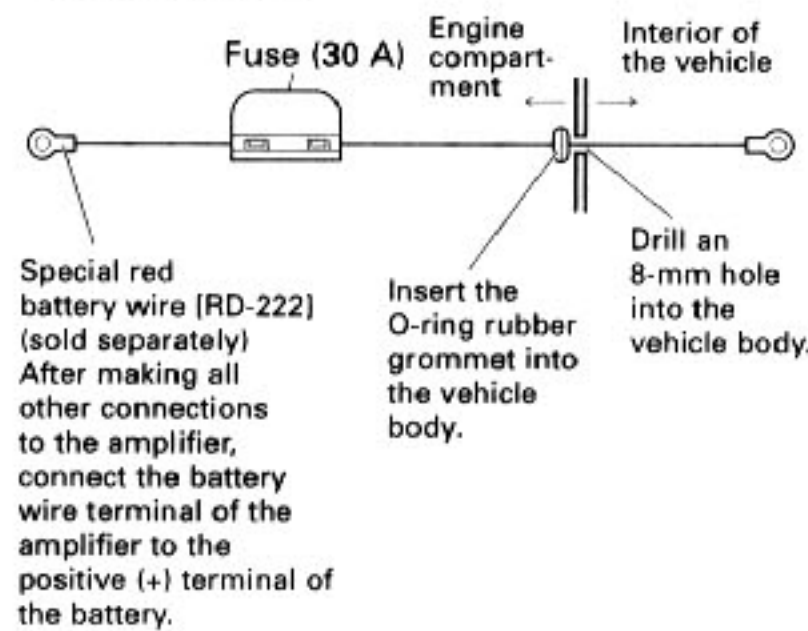


Fig. 11

2. Twist the system remote control wire.

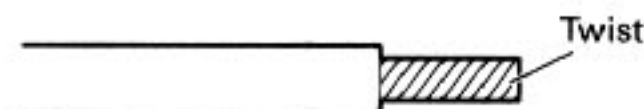


Fig. 12

3. Connect the wires to the terminal.

- Fix the wires securely with the terminal screws.
- If the supplied the System remote control wire are insufficient, please procure the System remote control wire that you require.

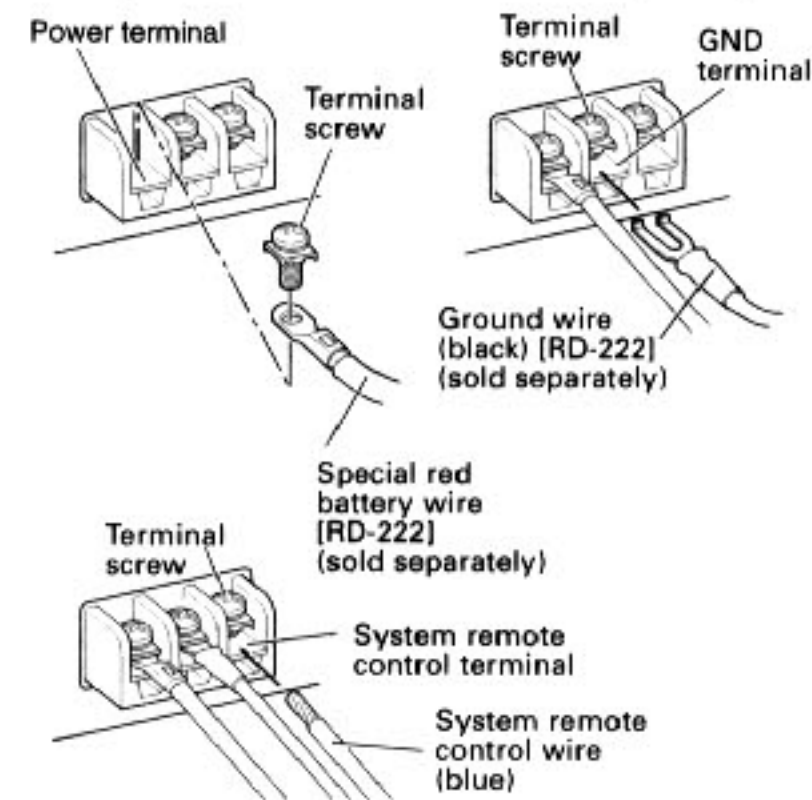


Fig. 13

Connecting the Speakers and Input wires

The speaker output mode can be four-channel, three-channel (stereo + mono) or two-channel (stereo, mono). Connect the speakers according to figures on the following pages.

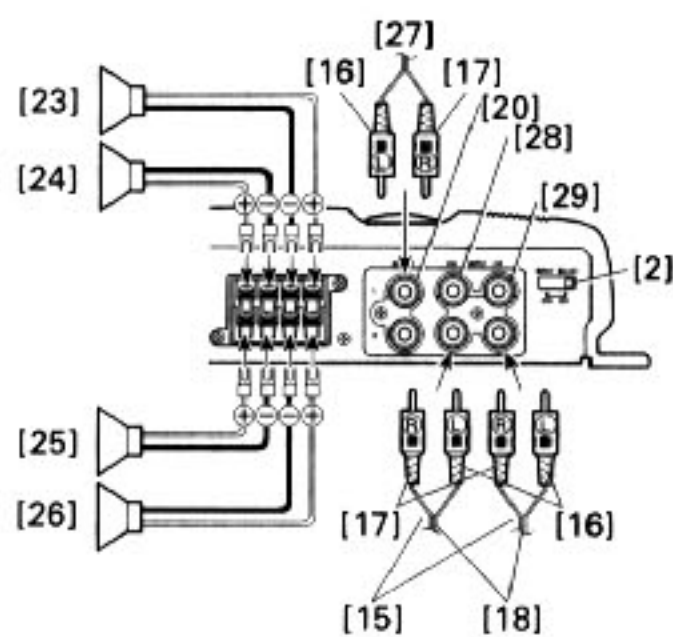


Fig. 14

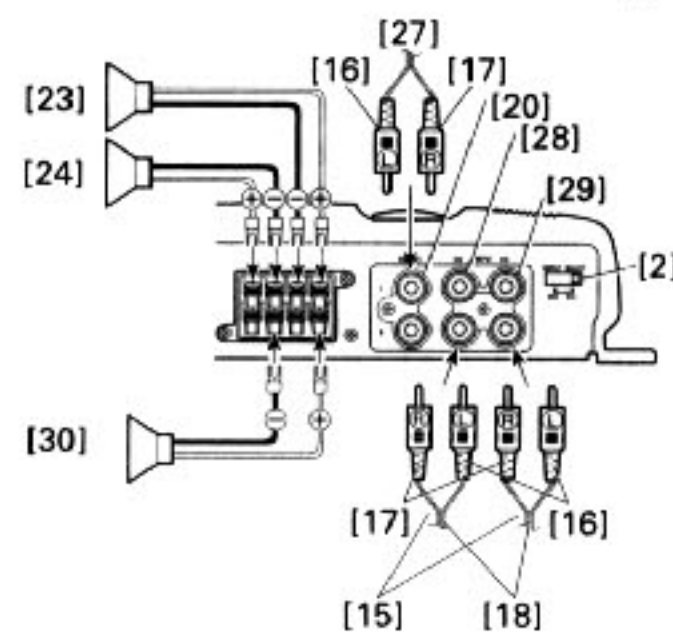


Fig. 15

Four-channel mode (Fig. 14)

- [2] RCA Input Select Switch
- For two-channel input, slide this switch to the left. For four-channel input, slide this switch to the right.
- [15] From car stereo (RCA output)
- If only one input plug is used, such as when the car stereo has only one output (RCA output), connect the plug to RCA input A, and do not connect any plug to RCA input B.
- [16] White
 - [17] Red
 - [18] Connecting wires with RCA plugs (sold separately)
 - [20] RCA output jack
 - [23] Speaker out B: Speaker (left)
 - [24] Speaker out B: Speaker (right)
 - [25] Speaker out A: Speaker (right)
 - [26] Speaker out A: Speaker (left)
 - [27] To a separate amplifier (RCA input)
 - [28] RCA input jack A
 - [29] RCA input jack B
- Connect the front or rear output plugs to jacks [28] or [29], according to your system.

Three-channel mode (Fig. 15)

- [2] RCA Input Select Switch
- For two-channel input, slide this switch to the left. For four-channel input, slide this switch to the right.
- [15] From car stereo (RCA output)
- If only one input plug is used, such as when the car stereo has only one output (RCA output), connect the plug to RCA input A, and do not connect any plug to RCA input B.
- [16] White
 - [17] Red
 - [18] Connecting wires with RCA plugs (sold separately)
 - [20] RCA output jack
 - [23] Speaker out B: Speaker (left)
 - [24] Speaker out B: Speaker (right)
 - [27] To a separate amplifier (RCA input)
 - [28] RCA input jack A
 - [29] RCA input jack B
- Connect the front or rear output plugs to jacks [28] or [29], according to your system.
- [30] Speaker out A: Speaker (mono)

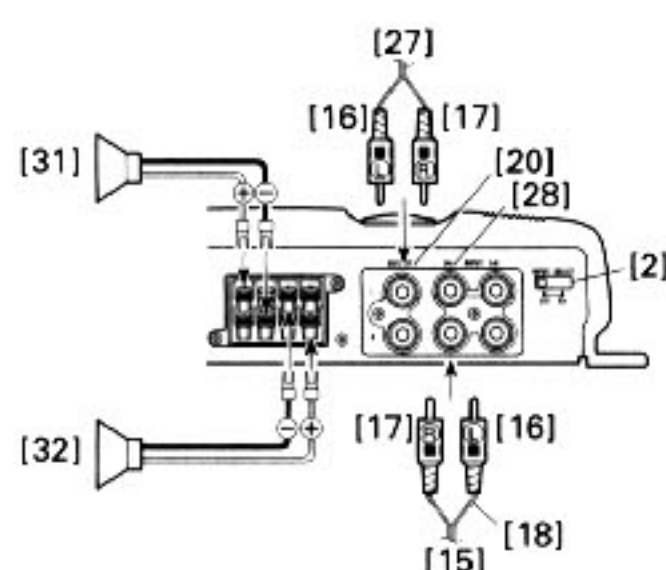


Fig. 16

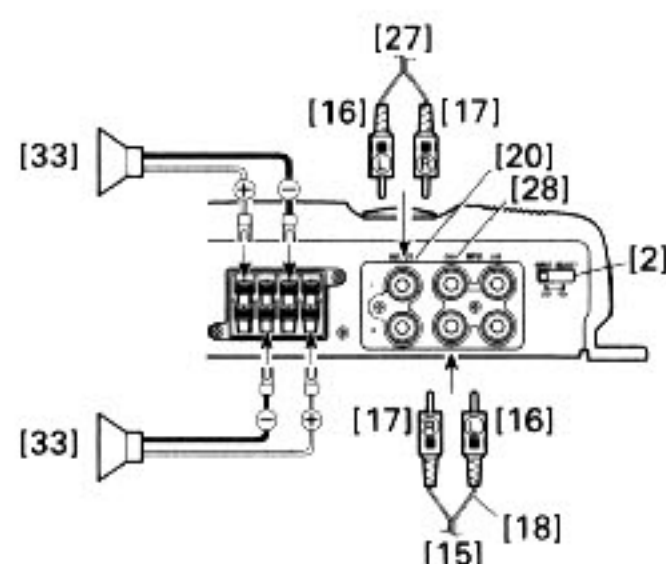


Fig. 17

Two-channel mode (stereo) (Fig. 16)

- [2] RCA Input Select Switch
Slide this switch to the left.
- [15] From car stereo (RCA output)
- [16] White
- [17] Red
- [18] Connecting wire with RCA plug
(sold separately)
- [20] RCA output jack
- [27] To a separate amplifier (RCA input)
- [28] RCA input jack A
- [31] Speaker (right)
- [32] Speaker (left)

Two-channel mode (mono) (Fig. 17)

- [2] RCA Input Select Switch
Slide this switch to the left.
- [15] From car stereo (RCA output)
- [16] White
- [17] Red
- [18] Connecting wire with RCA plug
(sold separately)
- [20] RCA output jack
- [27] To a separate amplifier (RCA input)
- [28] RCA input jack A
- [33] Speaker (mono)

(Fig. 10)

- [35] Tapping-screws (4 × 18 mm)
- [36] Drill a 2.5-mm-diameter hole
- [37] Floor mat or chassis

Connecting the Speaker Output Terminals

1. Expose the end of the speaker wires by about 10 mm and twist it using nippers or a cutter.

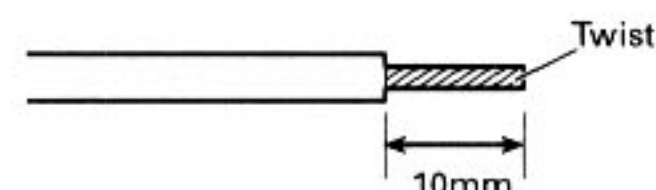


Fig. 18

2. Attach lugs to speaker wire ends.

- Use pliers, etc., to crimp lugs to wires.

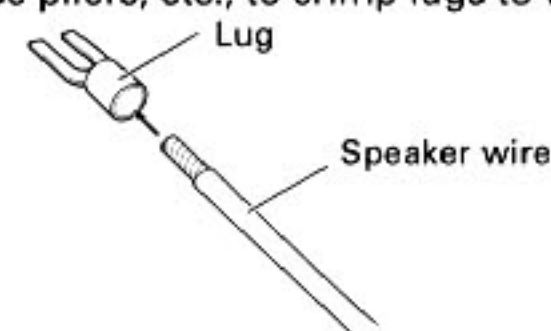


Fig. 19

3. Connect the speaker wires to the speaker output terminals.

- Fix the speaker wires securely with the terminal screws.

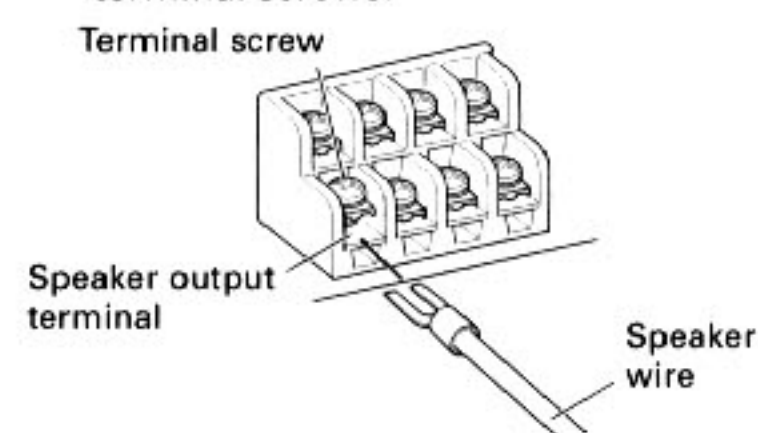


Fig. 20

Specifications

Power source	14.4 V DC (10.8 — 15.6 V allowable)
(ES model)	14.4 V DC (10.8 — 15.1 V allowable)
Grounding system	Negative type
Current consumption	18 A (at continuous power, 4 Ω)
Average current drawn*	5.5 A (4 Ω for four channels) 10 A (4 Ω for two channels)
Fuse	25 A
Dimensions	206 (W) × 50 (H) × 270 (D) mm
Weight	2.9 kg (6.4 lbs.)(Leads for wiring not included)
Maximum power output	60 W × 4 / 140 W × 2 (EIAJ)
Continuous power output	30 W × 4 (at 14.4 V, 4 Ω, 20 — 20,000 Hz, 0.08% THD) 70 W × 2 (at 14.4 V, 4 Ω, 20 — 20,000 Hz, 0.8% THD) 35 W × 4 (at 14.4 V, 2 Ω, 20 — 20,000 Hz, 0.8% THD)
(UC model only)	20 W × 4 (at 12 V, 4 Ω, 20 — 20,000 Hz, 0.08% THD) 50 W × 2 (at 12 V, 4 Ω, 20 — 20,000 Hz, 0.8% THD) 25 W × 4 (at 12 V, 2 Ω, 20 — 20,000 Hz, 0.8% THD)
Load impedance	4 Ω (2 — 8 Ω allowable) (Bridge connction: 4 — 8 Ω allowable)
Frequency response	10 — 50,000 Hz (+0 dB, -1 dB)
Signal-to-noise ratio	108 dB (IHF - A network)
(ES model)	108 dB (ICE - A network)
Separation	65 dB (1 kHz)
Low pass filter	Cut off frequency: 80 Hz Cut off slope: -18 dB/oct
High pass filter	Cut off frequency: 80 Hz Cut off slope: -12 dB/oct
Bass boost	Frequency: 40 — 120 Hz Gain: 0 — 12 dB
Input level / impedance	0.4 — 4 V / 22 kΩ

Note:

Specifications and the design are subject to possible modification without notice due to improvements.

***Average current drawn**

The average current drawn is nearly the maximum current drawn by this unit when an audio signal is input. Use this value when working out total current drawn by multiple power amplifiers.

